AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS

1. (Withdrawn) A process for the production of dihydroguinoline compounds of the general formula la or of tetrahydroguinoline compounds of the general formula lb

CH₂SO₂X Н R_2 Ŕı

 R_8

in which R₁ denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents,

Ιb

R₂, R₃, R₄, R₅, R₆, R₇ and R₈ on each occurrence and independently of one another denote hydrogen, halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues R₁ and R₈ together form a ring system and

X denotes OH, halogen, -O- R_9 , -S- R_{10} or $-NR_{11}R_{12}$ where R_9 , R_{10} , R_{11} and R₁₂ independently of one another denote hydrogen or a C1 to C20 hydrocarbon residue which can optionally contain one or more

heteroatoms or/and one or more substituents, wherein

the corresponding compounds I'a

$$R_{6}$$
 R_{7}
 R_{8}
 R_{1}
 R_{1}
 R_{2}
 R_{2}
 R_{3}
 R_{2}

are sulfonated to form Ia (X = OH) and optionally converted by hydrogenation into Ib (X = OH).

- 2. (Withdrawn) The process as claimed in claim 1, wherein the sulfonation is carried out by means of concentrated sulfuric acid.
- (Withdrawn) The process as claimed in claim 1, wherein the sulfonic acid group formed in the sulfonation is derivatized.
- 4. (Withdrawn) The process as claimed in claim 3, wherein the sulfonic acid group is converted into a sulfochloride.
- 5. (Withdrawn) The process as claimed in claim 3, wherein the sulfochloride group is reacted with a primary or secondary amine to form a sulfonamide.
- 6. (Withdrawn) A dihydroquinoline compound of the general formula la or a tetrahydroquinoline compound of the general formula lb

$$\begin{matrix} R_5 & CH_2SO_2X \\ R_6 & & R_4 \\ R_7 & & R_8 & R_1 \end{matrix}$$
 la

$$\begin{matrix} R_{5} & H & CH_{2}SO_{2}X \\ R_{6} & R_{4} & H \\ R_{7} & R_{8} & R_{1} \end{matrix}$$

in which R_1 denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents,

lb

R₂, R₃, R₄, R₅, R₆, R₇ and R₈ on each occurrence and independently of one another denote hydrogen, halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues R₁ and R₈ together form a ring system and

X denotes OH, halogen, -O-R₉, -S-R₁₀ or $-NR_{11}R_{12}$ where R₉, R₁₀, R₁₁ and R₁₂ each independently of one another denote hydrogen or a C1 to C20 hydrocarbon residue which can optionally contain one or more heteroatoms or/and one or more substituents, in particular -SO₃H, -PO₃H₂ and -COOH.

7. (Withdrawn) The compound as claimed in claim 6, wherein R₁ represents an aryl or alkyl residue and in particular a C5 to C15 aryl or a C1 to C20 alkyl residue, R₂ and R₃ are methyl and R₄ denotes hydrogen.

- 8. (Withdrawn) The compound as claimed in claim 6, wherein R₇ represents a hydroxy or methoxy residue.
- 9. (Withdrawn) The compound as claimed in claim 6 wherein R₆ represents a nitroso group.
- (Withdrawn) The compound as claimed in claim 6 wherein R₆ represents a formyl or a hydroxymethyl group.
- 11. (Withdrawn) The compound as claimed in claim 6, wherein X denotes halogen and in particular CI.
- 12. (Withdrawn) The compound as claimed in claim 6, wherein-X represents the residue –NR₁₁R₁₂
- (Withdrawn) A process for the production of dyes of the general formulae
 II to VII containing –SO₂X

in which R_1 , R_2 , R_3 , R_4 , R_5 and R_8 are defined as in claims 1 to 12, R on each occurrence can be the same or different and is defined as for R_1 , R_2 , R_3 , R_4 , R_5 and R_8 and R' on each occurrence and independently of one another denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues R and R' together form a ring system which can contain one or more double bonds,

 R_{13} on each occurrence and independently of one another denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, where R_{13} in particular represents hydrogen, aryl, carboxyphenyl, alkyl, perfluoroalkyl, cycloalkyl, pyridyl or carboxypyridyl,

X denotes OH, halogen, $-O-R_9$, $-S-R_{10}$ or $-NR_{11}R_{12}$ where R_9 , R_{10} , R_{11} and R_{12} each independently of one another denote hydrogen or a C1 to C20 hydrocarbon residue which can optionally contain one or more heteroatoms or one or more substituents, and

Y in formula III denotes O, S or Se and Y in formula VI denotes O, S or $C(R)_2$, wherein

corresponding compounds of formulae II' to VII'

are sulfonated with the proviso that for compounds of formula III in which Y = O and for compounds of formula IV, X does not denote OH.

- 14. (Withdrawn) A method for producing polycyclic dyes comprising using a compound as claimed in claim 6 or a compound obtained by the process as claimed in claim 1.
- 15. (Withdrawn) The method as claimed in claim 14 wherein the polycyclic dyes are of formulae II to VII.
- 16. (Withdrawn) A process for the production of polycyclic dyes, wherein compounds which have a dihydroquinoline end group with a 4-methyl group are sulfonated and optionally hydrogenated to form a tetrahydroquinoline with the proviso that the polycyclic dye is not a compound of formula III in which Y = O and X = OH or of formula IV in which X = OH.
- 17. (Withdrawn) The polycyclic dye produced according to the process as claimed in claim 13.
- 18. (Currently amended) A polycyclic dye of the general formulae II to VII

in which

R' denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents,

R on each occurrence and independently of one another denotes hydrogen, halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues R' and R together form a ring system which can contain one or more multiple bonds,

in which R₁ denotes hydrogen or a hydrocarbon group with 1-20 C atoms

> where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, R2, R3, R4, R5, and R8 on each occurrence and independently of one another denote hydrogen. halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues R₁ and R₈ together form a ring system and R₁₃ on each occurrence and independently of one another denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, where R₁₃ in particular represents hydrogen, ałkyl, carboxyphenyl, perfluoroalkyl, cycloalkyl, pyridyl carboxypyridyl,

> X denotes OH, is selected from the group consisting of halogen, -O-R₉, -S-R₁₀ er and $-NR_{11}R_{12}$ where R₉, R₁₀, R₁₁ and R₁₂ each independently of one another denote hydrogen or a C1 to C20 hydrocarbon residue which can optionally contain one or more heteroatoms or one or more substituents, and

Y in formula III denotes O, S or Se and Y in formula VI denotes O, S or C(R)₂,

with the proviso that the dye is not a compound of the general formula III in which Y = O and X = OH or of the general formula IV in which X = OH.

- (Previously presented) The polycyclic dye as claimed in claim 18 wherein X denotes halogen.
- 20. (Previously presented) The polycyclic dye as claimed in claim 18, wherein X represents the residue –NR₁₁R₁₂.
- 21. (Previously presented) The polycyclic dye as claimed in claim 20, wherein at least one of -R₁₁ and R₁₂ represents an alkyl or aryl residue—substituted with -COOH.

- 22. (Withdrawn) In a method for the detection of an analyte in a sample, the improvement which comprises using a labeled receptor for the analyte, wherein the label is a compound of claim 18.
- 23. (Withdrawn) The method as claimed in claim 22, wherein the analyte is a peptide or nucleotide.
- 24. (Withdrawn) The method as claimed in claim 22, wherein the dye is binding to an NH₂ or SH group of the analyte.
- 25. (Withdrawn) The method of claim 22, wherein the label is bound by coupling to an amino group of the analyte.
- 26. (Withdrawn) The method of claim 22, wherein the label is activated as an NHS ester is bound by coupling to an amino group of the analyte.
- 27. (Withdrawn) The method of claim 22, wherein the label is coupling to another dye.
- 28. (Withdrawn) The method of claim 27, wherein the label is coupled via an amino group of the other dye to thus form a FRET pair.
- 29. (Previously presented) The polycyclic dye as claimed in claim 19, wherein X denotes chlorine.